

CLAIMS

Having thus described my invention, I claim:

1. A structural reflective insulating material comprising:
a first outer layer of metal foil;
an adhesive binding coating material on an inner side of said first outer layer of reflective foil;
at least a first layer of foam material secured to said first layer of said reflective foil;
at least one layer of mesh material sandwiched between at least said first layer of foam material and at least a second layer of foam material;
at least a second layer of foam material;
a coating or adhesive binding material between at least a second layer of foam material and at least a second inner layer of reflective foil; and
at least a second layer of reflective foil bound to at least a second layer of foam material by the adhesive binding material.

2. The structural reflective insulating material of claim 1 wherein at least one of said first outer and second inner layers of reflective foil is aluminum.

3. The structural reflective insulating material of claim 1 wherein at least one of the first and second layers of foam material comprise polyethylene foam.

4. The structural reflective insulating material of claim 2 wherein at least one of the first and second layers of foam material comprise polyethylene foam.

1 5. The structural reflective insulating material of claim 1 wherein the
2 coating of adhesive binding material is polyurethane.

1 6. The structural reflective insulating material of claim 2 wherein the
2 coating of adhesive binding material is polyurethane.

1 7. The structural reflective insulating material of claim 3 wherein the
2 coating of adhesive binding material is polyurethane.

1 8. The structural reflective insulating material of claim 4 wherein the
2 coating of adhesive binding material is polyurethane.

1 9. The structural reflective insulating material of claim 1 wherein the mesh
2 material is one from a group consisting of aluminum or galvanized steel.

1 10. The structural reflective insulating material of claim 2 wherein the mesh
2 material is one from a group consisting of aluminum or galvanized steel.

1 11. The structural reflective insulating material of claim 3 wherein the mesh
2 material is one from a group consisting of aluminum or galvanized steel.

1 12. The structural reflective insulating material of claim 4 wherein the mesh
2 material is one from a group consisting of aluminum or galvanized steel.

1 13. The structural reflective insulating material of claim 5 wherein the mesh
2 material is one from a group consisting of aluminum or galvanized steel.

1 14. The structural reflective insulating material of claim 6 wherein the mesh
2 material is one from a group consisting of aluminum or galvanized steel.

1 15. The structural reflective insulating material of claim 7 wherein the mesh
2 material is one from a group consisting of aluminum or galvanized steel.

1 16. The structural reflective insulating material of claim 8 wherein the mesh
2 material is one from a group consisting of aluminum or galvanized steel.

1 17. A method of manufacturing a structural reflective insulating material
2 comprising the steps of:

3 coating a first layer of reflective foil on one side with an adhesive
4 binding material;

5 placing a first layer of foam material against the coating;

6 laying a mesh material on the first layer of foam material;

7 placing a second layer of foam material over the mesh material;

8 coating a second layer of reflective foil on one side with an
9 adhesive binding material;

10 placing the second layer of reflective foil with the side coated
11 with an adhesive binding material against the second layer of foam
12 material; and

13 running the material through a heat press to bind all layers of
14 material together to form an integral structural reflective insulating
15 material.

1 18. A method of making an air duct from a structural reflective insulating
2 material comprised of a first outer layer of reflective foil; an adhesive binding
3 coating material on an inner side of said first outer layer of reflective foil; at least
4 a first layer of foam material secured to said first layer of said reflective foil; at least
5 one layer of mesh material sandwiched between at least said first layer of foam
6 material and at least a second layer of foam material; at least a second layer of foam
7 material; a coating or adhesive binding material between the at least a second layer
8 of foam material and the at least a second inner layer of reflective foil; and the at
9 least a second inner layer of reflective foil, comprising the steps of;

10 folding a piece of the structural reflective insulating material as
11 many times as necessary so that ends of the piece form a channel; and

12 securing the ends together by securing means to form a desired
13 configuration.

1 19. The method of forming the air duct in claim 18 wherein the securing
2 means consists of metallic tape.

1 20. The method of forming the air duct in claim 18 wherein the desired
2 configuration is substantially rectangular.

1 21. The method of forming the air duct in claim 18 wherein the desired
2 configuration is substantially circular.

1 22. The method of forming the air duct of claim 21 wherein the securing
2 means further comprises an inward curved hook on one end of the material and an
3 outward curved hook on a second end, said curved hooks being interconnected to
4 lock the duct in the substantially circular configuration.

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